

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Lynn Water & Sewer Commission (LWSC)

is authorized to discharge from the facility located at

Lynn Regional Wastewater Treatment Facility and
Combined Sewer Overflows
Lynn, MA

to receiving waters named Lynn Harbor (Broad Sound), Saugus River, Strawberry Brook and Nahant Bay, in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective 60 days after the date of signature

This permit and the authorization to discharge expire at midnight, five years from the effective date of the permit.

This permit supersedes the permit issued June 15, 1987 and modified on March 30, 1989 and November 17, 1989 respectively.

This permit consists of 14 pages and Attachments A and B, Acute and Chronic Marine Toxicity Test Protocol and Procedures; Attachment C, Existing CSO discharges; Attachment D, Industrial Users Guidance; and Attachment E, Pretreatment Annual Report Guidance in Part I including effluent limitations, monitoring requirements, etc., and 35 pages in Part II including General Conditions and Definitions and Sludge guidance.

Signed this 31st day of May, 2000

/signature on file/
Linda M. Murphy

Director,
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director, Division of
Watershed Management
Department of Environmental
Protection
Commonwealth of Massachusetts
Boston, MA

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- 1.a. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001 to the Lynn Outer Harbor. The discharges shall be limited and monitored as specified below and shall be reported by the permittee pursuant to section F on page 12 of Part I:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirement</u>	
	<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u> ^{*1}	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-(MGD)	25.8 ^{*2}	-	Report	Continuous	See Footnote *2
BOD *3 (mg/l)	30	45	-	Daily	24-hr Composite
TSS *3 (mg/l)	30	45	-	Daily	24-hr Composite
pH ^{*1}	(See A.1.b on Page 5 of Part I)			Daily	Grab
Fecal Coliform ^{*1} ,*11	88cfu/100ml	-	260cfu/100ml	Daily	Grab
Chlorine, Total Residual-mg/l*1,*4	0.14	-	0.247	3xdaily	Grab
Oil and Grease (mg/l)	-	-	15	Weekly	Grab
C-NOEC ^{*8}	5.26% or greater ^{*9}			Quarterly*10	24-hr Composite
LC50 ^{*5}	100% or greater ^{*6}			Quarterly*7	24-hr Composite
Copper, Total -(mg/l)	-	-	0.099	Monthly	24-hr Composite
Nitrogen-Total (mg/l)	-	-	Report	Monthly	24-hr Composite

The discharge shall not cause a violation of the water quality standards of the receiving waters.

Footnotes are on Page 4 of Part I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- 1.b. During the period beginning the effective date and lasting through expiration, when influent flows exceed 75 mgd, the permittee is authorized to discharge combined primary and secondary effluent to the Lynn Inner Harbor through outfall 002 and to the Lynn Outer Harbor through outfall 001. Such discharges through outfall 002 shall be limited and monitored as specified below and shall be reported by the permittee pursuant to section F on page 12 of Part I:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring requirement</u>	
	Average	Average	Maximum	Measurement	Sample
	<u>Monthly</u>	<u>Weekly</u>	<u>Daily</u> ^{*1}	<u>Frequency</u>	<u>Type</u>
Flow-(MGD)	Report	-	Report	Continuous	See Footnote *2
BOD *3 (mg/l)	-	-	50	Daily	24-hr Composite
TSS *3 (mg/l)	-	-	50	Daily	24-hr Composite
pH ^{*1}	(See A.1.b on Page 5 of Part I)			Daily	Grab
Fecal Coliform ^{*1} ,*11	Report	-	Report	3xdaily	Grab
Chlorine,Tot Res,mg/l*1,*4	0.0075		0.013	3xdaily	Grab

Oil and Grease (mg/l)	-	-	15
Daily		Grab	

The discharge shall not cause a violation of the water quality standards of the receiving waters.

Footnotes are on Page 4, of Part I. See last page of document.

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- b. The pH shall be in the range of 6.2 - 8.5 standard units and the pH at the edge of the mixing zone shall not be more than 0.2 units outside of the normally occurring range for the receiving waters.
 - c. The discharge shall not cause objectionable color, odor or turbidity to the receiving waters.
 - d. There shall be no discharge of floating solids and oil sheen other than trace amounts.
 - e. During dry weather the permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
 - f. Samples taken in compliance with the monitoring requirements specified in the permit shall be taken at a point after treatment but prior to mixing with any receiving water or any other waste stream.
2. The permittee must provide adequate notice to the Director of the following:
- a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category discharging process water; and
 - b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:

- (1) the quality and quantity of effluent introduced into the POTW; and
- (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

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3. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. The total chlorine residual and/or other toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

4. NUMERICAL EFFLUENT LIMITATIONS FOR TOXICANTS

EPA or MADEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act, state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state

laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

If an applicable management practice or numerical limitation for pollutants in sewage sludge more stringent than existing federal and state regulations is promulgated under Section 405(d) of the Clean Water Act (CWA), this permit shall be modified or revoked and reissued to conform to the promulgated regulations.

2. The permittee shall give prior notice to the Director on any changes(s) planned in the permittee's sludge use or disposal practice.
3. A change in the permittee's sludge use or disposal practice is a cause for modification of the permit. It is a cause for revocation and reissuance of the permit if the permittee requests or agrees.
4. The permittee shall annually perform a priority scan of 126 priority pollutants on the sludge prior to ultimate disposal. Results to be submitted to EPA and MADEP by February 19.

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C. DEVELOPMENT OF LIMITATIONS FOR INDUSTRIAL USERS:

- a. Pollutants introduced into POTWs by a non-domestic source (user) shall not Pass Through the POTW or Interfere with the operation or performance of the works.
- b. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within 6 months of the effective date this permit, the permittee shall prepare and submit a written

technical evaluation to the EPA analyzing local limits. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the permittee may use the attached form (Attachment D) to assist in developing local limits. Justifications and conclusions should be based on actual plant data if available and should be included in the report. The Permittee shall carry out the local limits revisions in accordance with EPA Guidance Manual for the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (December, 1987).

INDUSTRIAL PRETREATMENT PROGRAM

- a. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program ("IPP"):
 1. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial

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user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

2. Issue or renew all necessary industrial user control mechanisms within 120 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

3. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement; and
 4. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
- b. The permittee shall provide the EPA and the MA DEP with an annual report describing the permittee's pretreatment program activities over the twelve month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in ATTACHMENT E of this permit and shall be submitted no later than March 1 of each year.
 - c. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR 403.18(c).
 - d. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR 405 et. seq.

D. COMBINED SEWER OVERFLOWS

1. EFFLUENT LIMITATIONS

- a. During wet weather, the permittee is authorized to discharge storm water/wastewater from combined sewer outfalls listed in Attachment C , subject to the following effluent limitations.
- i. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgement (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control include the implementation of Nine Minimum Controls (NMC) specified below and detailed further in Part I.D.2. "Nine Minimum Controls, Minimum Implementation Levels", of this permit:
 - 1. Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.
 - 2. Maximum use of the collection system for storage.
 - 3. Review and modification of the pretreatment program to assure CSO impacts are minimized.
 - 4. Maximization of flow to the POTW for treatment.
 - 5. Prohibition of dry weather overflows from CSOs.
 - 6. Control of solid and floatable materials in CSOs.
 - 7. Pollution prevention programs that focus on contaminant reduction activities.
 - 8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
 - 9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Implementation of these controls is required by the effective date of the permit. Documentation of the implementation of these controls has been submitted and is currently under review by EPA and the State. EPA and the State consider that approvable documentation must include the minimum requirements set forth in Part I.D.2 of this Permit and additional activities the permittee can reasonably undertake.

- ii. The discharges shall not cause violations of Federal or State Water Quality Standards.

2. NINE MINIMUM CONTROLS, MINIMUM IMPLEMENTATION LEVELS

- a. The Permittee must implement the nine minimum controls in accordance with the documentation provided under Part I.D.1.a.i. of this permit. This implementation must include the following controls plus other controls the Permittee can reasonably implement as set forth in the documentation.
- b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging. (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of the inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

Annually, no later than January 15th, the permittee shall submit a certification to the State and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.

The State and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

- c. Discharges to the combined system of septage, holding tank

wastes or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active. (NMC# 3,6, and 7).

- d. Dry weather overflows (DWOs) are prohibited (NMC# 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and the State within 24 hours in accordance with the reporting requirements for plant bypass (Paragraph D.1.e of Part II of this permit).
- e. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC# 9). Quantification may be through direct measurement or estimation. When estimating, the permittee shall make reasonable efforts, i.e. gaging, measurements, to verify the validity of the estimation technique. The following information must be recorded for each combined sewer outfall for each discharge event:

- ! Estimated duration (hours) of discharge;
- ! Estimated volume (gallons) of discharge; and
- ! National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

Annually, no later than January 15th, the permittee shall submit a certification to the State and EPA which states that the all discharges from combined sewer outfalls were recorded, and records maintained for the previous calendar year.

- f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC# 8) The signs must be located at or near the combined sewer outfall structures and easily readable by the public. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall

contain the following information:

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LWSC

WET WEATHER

SEWAGE DISCHARGE

OUTFALL (discharge serial number)

3. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from those outfalls listed in Attachment C of this permit. Discharges of wastewater from any other point source are not authorized under this permit, unless in accordance with Part II.B.4 (Bypass) of this permit.

E. Operation and Maintenance of the LWSC Sewer System

Operation and maintenance of the sewer system shall be in compliance with the General requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Infiltration/Inflow

The permittee shall eliminate excessive infiltration/inflow to the LWSC sewer system. A summary report of all actions taken to minimize infiltration/inflow during the previous twelve months shall be submitted to EPA and MADEP by the fifteenth day of January each year.

3. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall provide by the effective date of the permit an alternative power source sufficient to operate the publicly owned treatment works (as defined by the 40 CFR 122.2).

F. MONITORING AND REPORTING

1. Monitoring results obtained during the previous month shall be summarized for each month and reported on separate

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Discharge Monitoring Report Forms(s) postmarked no later than the 15th day of the month following the completed reporting period.

- a. original signed of all Discharge Monitoring Reports, and all other report required herein, shall be submitted to the Director at the following address:

U.S.Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

- b. One signed copy of all monitoring reports and all other reports except toxicity test reports shall be submitted to the State at:

Massachusetts Department of Environmental Protection
Northeastern Regional Office
205A Lowell Street
Wilmington , MA 01887

- c. Signed copies of toxicity test reports and related notices except DMRs required by this permit shall be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Watershed Planning and Permitting Section
627 Main Street
Worcester, Massachusetts 01608

G. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency and the Division of Watershed Management under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Director of the Massachusetts Division of Water Pollution Control pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in

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writing with such modification, suspension or revocation. In the event any portion of this Permit is declared invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

- *1. Required for state certification.
- *2. The flow limit is an annual average. Each month, the permittee shall report the annual average flow using the monthly average flow from the reporting month and the monthly average flows from the preceding 11 months.
- *3. Report both influent and effluent results for this parameter.
- *4. The minimum detection level (ML) for total residual chlorine is defined as 50 ug/l. This value is the minimum detection level for chlorine using EPA approved methods found in Standard Methods for the Examination of Water and Wastes, 20th Edition, Method 4500 CL-E and G, or USEPA Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 50 ug/l (outfall 002), compliance/non-compliance will be determined based on the ML. Sample results of 50 ug/l or less shall be reported as zero on the discharge monitoring report.
- *5. LC50 is the concentration of effluent in a sample that causes mortality to 50% of the test population at a specific time of observation.
- *6. "100% or greater" is defined as a sample of undiluted effluent. This limit is considered to be a maximum day limit.
- *7. Definitive acute toxicity tests shall be performed using the Mysid Shrimp (Mysidopsis bahia) and the Inland Silverside (Menidia beryllina). The tests must be performed in March, June, September and December in accordance with Test Protocols specified in Attachment A of the permit and Composite Sample shall be taken at effluent wet well. Toxicity test reports shall be submitted by the end of the next month respectively.
- *8. "C-NOEC" is defined as the concentration of effluent in a sample where no observed adverse effects on fertilization or sexual reproduction are observed.
- *9. "5.26% or greater" is defined as a sample containing 5.26% or more effluent, the remainder being dilution water.
- *10. Chronic toxicity tests shall be performed using the Inland Silverside (Menidia Beryllina) and Sea Urchin (Arbacia punctulata). The tests must be performed in March, June, September and December in accordance with the Test Protocols

specified in Attachment B of the permit and Composite sample shall be taken at effluent wet well. Toxicity test reports shall be submitted by the end of next month respectively.

- *11. Fecal Coliform monitoring will be conducted year round. This is a state certification requirement. The monthly average limit is expressed as a geometric mean.

PART I

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ATTACHMENT C
EXISTING OUTFALLS

DISCHARGE	NAME	LATITUDE/LONGITUDE	FREQUENCY AND COMPOSITION	RECEIVING WATER AND (CLASSIFICATION)
001	MAIN OUTFALL (LONG) (14,000')	42° 24' 41" LAT. 70° 56' 54" LONG.	CONTINUOUS	(SB) LYNN HARBOR
002	ALTERNATE OUTFALL (SHORT) (1100')	42° 27' 02" LAT. 70° 57' 15" LONG.	CONTINUOUS FOR POTW FLOWS GREATER THAN 75MGD	(SB) LYNN HARBOR
003	SUMMER STREET OVERFLOW	42° 27' 26" LAT. 70° 58' 30" LONG.	WET WEATHER CSO	(SB) SAUGUS RIVER
004	MARKET STREET OVERFLOW	42° 27' 35" LAT. 70° 56' 43" LONG.	WET WEATHER CSO	(SB) LYNN HARBOR
005	BROAD STREET OVERFLOW	42° 27' 35" LAT. 70° 56' 39" LONG.	WET WEATHER CSO	(SB) LYNN HARBOR
006	SANDERSON AVE. ¹ OVERFLOW	42° 28' 10" LAT. 70° 55' 45" LONG.	WET WEATHER CSO	(SA) NAHANT BAY
007	WASHINGTON ST. OVERFLOW (SEALED)	42° 27' 36" LAT. 70° 56' 27" LONG.	WET WEATHER CSO	(SB) LYNN HARBOR
008	BOSTON ST./OVERFLOW COTTAGE ST.	42° 27' 48" LAT. 70° 58' 27" LONG.	WET WEATHER CSO	BROOK AND (SB) STRAWBERRY SAUGUS RIVER

1. Sanderson Avenue overflow now connects to a new drainage system on Eastern Avenue that discharges to King's Beach through a new culvert built adjacent to the new Stacey Brook culvert. The connection to Stacey Brook has been sealed. There are now two culverts that discharge side by side to King's Beach, one for the Lynn system through the new Lynn culvert for the Sanderson Avenue overflow and Eastern Avenue drainage system and one for the town of Swampscott and Stacey Avenue, Lynn no longer connects to Stacey Brook. The new Stacey Brook culvert replaces the

previous Stacey Brook at the same location.